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The CDA Foundation Model to Fluoridate Communities

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ABSTRACT California's population receiving the benefits of fluoridated public water supplies has increased from 15.7 percent to 62.1 percent in the past 20 years.[1,2] This growth has been achieved through a broad-based coalition of organizations and individuals, starting with the creation of the California Fluoridation Task Force in 1994 and supported by the California Fluoridation Act of 1995. This paper describes the process whereby the most recent gains have been made in San Diego and are ongoing in San Jose.

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It is no accident that California has the greatest increase of all the 50 states in the number of residents receiving fluoridated water.[3] This phenomena is largely the result of succesful broad-based coalitions involving both the California Dental Association and the California Dental Association Foundation. Previous articles in the *Journal of the California Dental Association* have highlighted the long and strong support by the CDA for fluoridation in California, including sponsoring the two bills that lay out the requirement, AB 733 and SB 96.[4] Additionally, CDA has expended significant resources on legal challenges that support fluoridation and have clearly established the precedent that local ordinances do not supercede state law.

Years of experimentation and hard work have shown that a three-phase approach of strategy, advocacy, and policy-making often spells success. San Diego, formerly the largest city in the nation without fluoridation, implemented it in February 2011. San Jose is now the largest community in the country without fluoridation. The CDA Foundation is currently working with The Health Trust in San Jose to fluoridate its water supply. The methods employed in San Diego and San Jose exemplify the CDA Foundation's model to achieve fluoridation.

This article describes the gains made in fluoridation in California within the last decade, outlines the methods used by community advocates who receive grass roots training from the CDA Foundation to achieve fluoridation, and illustrates those methods with specific examples from San Diego and San Jose. Fluoridation has been mandated in California since 1995 in water systems with 10,000 connections or more when funds are provided from a source other than the ratepayers or taxpayers.[5]

In 1999, the California Endow-

BOX

The concept for fluoridation of California cities was developed and refined over many years and involved a broad-based coalition of agencies and individuals. That coalition included the Fluoridation Task Force, the State Office of Oral Health, the Dental Health Foundation (now the Center for Oral Health), Delta Dental, the CDA, and various representatives from academia. The model described in this paper was based on a decade of hard work by all of the above.

ment awarded $15 million to a consortium led by the state to fund capital infrastructure for fluoridation. The CDA Foundation served as the fiscal intermediary for the project. With that funding, several cities and water systems were funded totally or in part, including Los Angeles, the Metropolitan Water District of Southern California, Mountain View, Sacramento, the San Francisco Public Utilities Commission at Sunol Valley, and Santa Monica.[6]

The collective experiences of advocates realized in these gains led to the development of a model by the CDA Foundation to fluoridate community water supplies (BOX). That model consists of three phases: strategy, advocacy, and policy-making. The creation of a proposed strategy draws on knowledge gained from prior experience. Local advocates are called upon to form a leadership team that "fine tunes" this strategy to reflect the community's unique conditions. Broad-based support is garnered by the team, and advocacy methods known to be effective in that community are employed. The team adjusts this cyclical process of strategy and advocacy until a policy is created.

Phase 1: Strategy

Developing strategy begins with a regional assessment to review the physical structure of the water systems, their governance, and the geopolitical boundaries involved. Prior media coverage is evaluated to determine pro and con elements that may influence a governing body's decision to fluoridate. Investigating the interrelationships and distribution of the water systems serves to contain costs since both wholesale and retail water systems are frequently involved in the delivery of treated water to a metropolitan area. Often, engineers and decision-makers prefer a regional over local solution to fluoridation. This was true with the fluoridation of the Metropolitan Water District in Southern California. The fluoridation of that major wholesale water system saved downstream retail systems more than $40 million in the installation of capital equipment.[7] For the city of San Diego alone, at least $5 million was saved.[8]

An executive team or steering committee is required to develop a strategic plan and to spearhead and monitor the defined activity. The path from interest in fluoridation to implementation of a system often takes years. This requires a committed team willing to manage the week-to-week developments with significant oversight. Also, if capital funds are not identified for fluoridation, the challenge of raising funds can fall to the executive team.

A local needs statement is developed early in the process to illustrate the status of oral health in the selected community. Fluoridation is proposed as one remedy to address the problem of dental decay. Often, elected officials and key influential individuals are not aware of the extent of the oral health problem in their community, particularly among young children. A needs statement that rests on local data informs them about the tooth decay epidemic while addressing the cost savings that can be achieved with fluoridation.

In addition to concrete information, effective strategy requires development of a broad base of support. Often the endeavor begins with the dental community. However, dentists understand the need to collaborate with other health care providers, business elements, and organizations that serve children, families, and seniors. Proponents have become well-acquainted with the scientific evidence by the time they make the case for fluoridation. Data demonstrating the safety and efficacy of fluoridation provide the scientific foundation on which individuals and local agencies base the decision to fluoridate their community water supply.[9]

A communication strategy is crafted that may include educating reporters and editorial boards. Local proponents are encouraged to stay on message by focusing on the oral health problem that exists in the community. Fluoridation is described as the single most important community-based approach to help prevent tooth decay.[10] The science of fluoridation is sound and local advocates are provided with information and data to address the arguments of anti-fluoridation misinformation.

Phase 2: Advocacy

Advocacy is variously applied to many public health issues, but some elements are essential to the CDA Foundation model. Fluoridation advocacy will involve a core group of individuals and agencies working toward a common goal — in this instance, local health policy. Many advocates are volunteers, so maintaining motivation is essential. The strategic plan will provide clarity to local proponents about direction and timing, minimizing frustration, and keeping everyone on track.

Once the initial strategic plan is agreed upon, which includes anticipating who will support and who will oppose fluoridation, active advocacy can begin. The first step is often educating local leaders and decision-makers. The dialogue typically centers on the need for fluoridation, as documented by local data, the safety and benefits of fluoridation, and initial cost projections for installing and operating the system. Education of residents is often low-key in the beginning, conducted principally by dentists, dental hygienists, and pediatricians.

Consumers need to be able to approach their health care providers with questions. A one-on-one conversation with a trusted health provider can be the most informative way for consumers to learn about fluoridation. It is important to note that many residents believe their water supply is already fluoridated, as was revealed, for example, in a recent survey in Santa Clara County conducted by the County Health Department.[11] The survey revealed the extent of misinformation on fluoridation status, with 76 percent of adults on public water systems believing their water was fluoridated, while in reality only 21 percent have access to fluoridated water.

When it comes to fluoridation, sound science provides the foundation of advocacy. Therefore, the advocacy team should always include at least one scientific expert, preferably a dentist, physician, or professor of dentistry, medicine, or public health. These experts will play a vital role in communicating the science of fluoridation and responding to questions from members of a city council or a board of directors of a water system. Responding promptly and effectively to misinformation is essential in the dialogue with decision-makers and the media.

Phase 3: Policy-Making

Local policy to fluoridate is the purview of the governing body of the water system, usually a board of directors or a city council. Public hearings are preferred and are often required prior to policy development. At the hearings, presentations in support of fluoridation by scientific experts and community groups are aired along with local opposition.

When policy-makers decide to proceed with fluoridation, design and construction can begin—if funding is available. If funds are not available, then the advocates of fluoridation must initiate fundraising efforts (see the section on "Capital Funding").

WHEN IT COMES to fluoridation, sound science provides the foundation of advocacy.

Recent Examples of the CDA Foundation Model

San Diego

Significant gains in fluoridation were realized in Southern California from 1999 to 2009, with San Diego being the only major exception. As noted above, however, fluoridation was finally implemented in San Diego in February 2011.[12]

The strategy for San Diego hinged on creating a steering committee, led by retired state Sens. Dede Alpert and Lucy Killea, which included health care, business, and academic leaders. While funds had been earmarked for San Diego in the initial California Endowment award, they were diverted to fluoridate the Metropolitan Water District. So, the initial task of the steering committee was to raise the capital funds needed to install equipment at the city's treatment plants. A potential sponsor was determined to be the First 5 Commission of San Diego County, which receives its funds from tobacco tax revenues collected by the statewide commission, First 5 California.[13] These funds are earmarked for children between the ages of newborn and 5, a good fit for fluoridation.

Through the leadership of Sens. Alpert and Killea, and with support from San Diego Supervisor Ron Roberts, approximately $4 million in funding was obtained from First 5 San Diego to cover the capital and initial operating costs of the city's three treatment plants.[14] Dating from 1954, the city of San Diego had an ordinance opposing fluoridation, but the award of funds required the city to move forward with fluoridation, since state law supersedes a local ordinance.[15]

It is important to note that previous attempts to fluoridate San Diego had failed, since, in addition to legal complications, complex engineering requirements had stalled the negotiations. These engineering requirements were simplified when the Metropolitan Water District of Southern California (MWD) began to provide treated fluoridated water to San Diego through the San Diego County Water Authority. Although this fluoridated water was diluted when it was mixed with water from the city's three treatment plants, this suboptimal fluoridation was the first step in the regional solution to optimally fluoridate the city of San Diego. Fluoridation of the city's three treatment plants was then all that was required to bring the city's treated water to an optimal level for caries prevention. The fluoridation of MWD

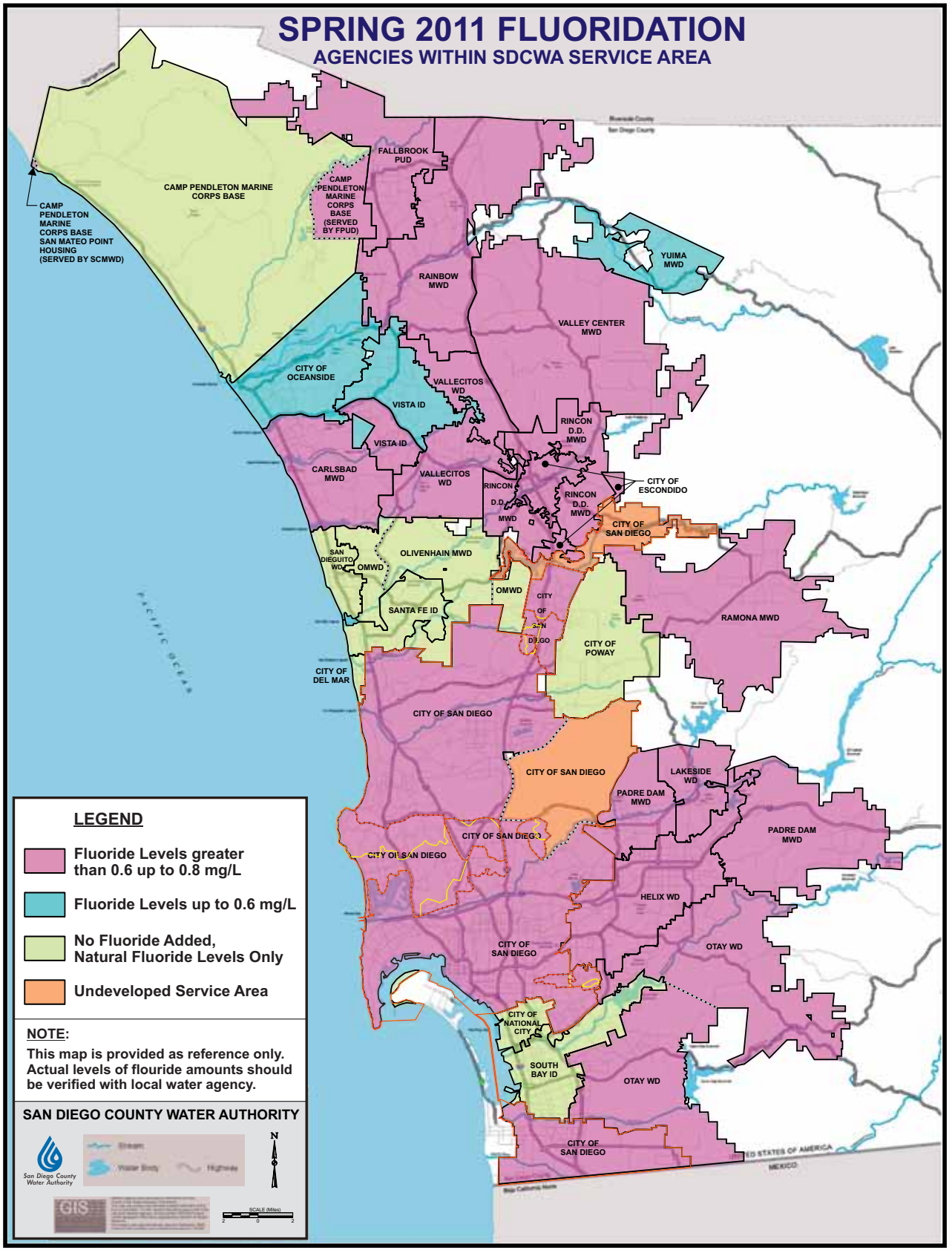

FIGURE 1. Spring 2011 fluoridation agencies within SDCWA service area.

significantly reduced the capital costs to fluoridate San Diego. With the capital costs reduced, the First 5 Commission of San Diego County was able to award the required funding to the city (**FIGURE 1**).[16]

San Jose

With fluoridation now delivered to San Diego's 1.3 million residents, San Jose is the largest city in the nation without the benefits of fluoridated water. Following is a status report on the progress of the advocacy in Santa Clara County.

In 2006, The Health Trust (THT) commissioned the CDA Foundation to conduct a regional assessment of the possibility of fluoridating the water systems serving the city of San Jose. That assessment, which analyzed the political pros and cons of the issue, revealed that two major water systems serve the city: the Santa Clara Valley Water District, which is the wholesale system that serves Santa Clara County; and the San Jose Water Company, a publicly traded retail system governed by the California Public Utilities Commission (CPUC).

In 2008, Frederick Ferrer, the CEO of THT, requested the CDA Foundation develop a strategy for implementing its recommendations to fluoridate the systems. Ferrer then joined with Marty Fenstersheib, MD, MPH, the county health officer, to form an executive team to guide the project. The team then garnered significant community support from People Acting in Community Together (PACT), an interfaith-based advocacy group, as well as the Silicon Valley Leadership Group, which represents more than 300 businesses in Silicon Valley. In addition, the Pew Center on the States provided public relations and social marketing expertise, as well as financial assistance, to

THT as part of its national initiative on oral health. THT has developed a useful website to promote fluoridation.[17]

Rough capital estimates were obtained for the two water systems: $6 million-$10 million for the Santa Clara Valley Water District; and $14 million-$23 million for the San Jose Water Company. This latter cost estimate includes the more than 100 wells that provide 40 percent of the SJWC water supply.[18] The Santa Clara Valley Water District has held two workshops on fluoridation for its Board of Directors and the public. Just before the second workshop, which was held March 22, 2011, a supportive opinion piece appeared in the *San Jose Mercury News*, coauthored by Emily Lam, a senior director at the Silicon Valley Leadership Group, and Jolene Smith, the executive director of the First 5 Santa Clara County.[19] At a later hearing on Nov. 15, 2011, the Valley Board voted unanimously to "provide fluoridated drinking water at the district's three water treatment plants and the Campbell well field."[20]

Epilogue

Capital Funding

One primary challenge in Santa Clara County is the need for capital funding for installing fluoridation equipment. The funding requirements for major water systems in California are usually in the millions of dollars, so identifying potential funding sources can be part of the local strategy. The $15 million that The California Endowment awarded to develop capital infrastructure for fluoridation equipment has already been appropriated.

The First 5 Commissions in San Diego, Sacramento, Los Angeles, and Santa Clara Counties awarded considerable funds to water systems for capital infrastructure for fluoridation equipment. However, Assembly Bill 99, which required all county First 5 Commissions to remit approximately half of their funds to the state by June 2012, threatened available capital funding for fluoridation.[21] But legal challenges by First 5 Commissions to the bill were successful and the funds were restored to local services.[22]

The Role of Organized Dentistry

The CDA, the CDA Foundation, and the component dental societies are often the first to voice the need for fluoridation in a community. For example, dialogue persisted for years at the component societies in San Diego and Santa Clara counties before resources were developed to sustain the advocacy effort. The task is daunting, since any local team typically has the dual requirements of raising the funds needed to assist with capital costs and of creating support through education.

The CDA Foundation houses the California Fluoridation Advisory Council, which provides technical expertise to local advocates. Engineers and other scientific and technical experts meet regularly to share progress and consider challenges. In addition, the CDA has been proactive in providing the legal resources necessary to address opposition to fluoridation in the courts.

The continued gains in California in the number of people receiving fluoridation reflect the resources allocated to the venture. Highly skilled local teams work in conjunction with the California Fluoridation Advisory Council to create a technical infrastructure. This layered strategy, always attuned to local, state, and national trends, grounds the process of advocacy. In metropolitan communities in California, a multiyear effort is required to fluoridate any major water system. Sustained application of human and financial resources over several years is key to success. ■■■■

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ASK THE BROKER

Yes, that's actually me doing dentistry for the first time in 12 years! (It's really like riding a bike!) I recently had the honor and privilege to go on a medical/dental mission trip to Kenya. We traveled with 5 doctors, 3 dentists including Mona Chang, my wife, and Greg Vixie of Grass Valley. We also had 20 high school/college kids who pitched in on the medical/dental services and helped build a structure that will eventually include a dental and medical surgical suite when electricity reaches the area later this year.

We traveled to different villages everyday for 4 days to do extractions in very primitive surroundings. When word got out that we actually numbed the patient before doing the extractions, we were inundated: I think I extracted 75 -100 teeth on my last day alone! Most of these were very tough extractions as the local bone density and root length seemed to be greater than I remembered!!! Usually the teeth came out in pieces as they only seek care when they have an obviously bombed out tooth. We had a generator and delivery unit at one location which was used primarily for sectioning and troughing out the mandible to get out roots/tips. Fortunately, fluorosis is common in the area and sweets are scarce (except those given by tourists), so the patients have a fairly low decay rate; we normally extracted only 2-3 teeth per patient.

Thank you to Patterson Dental for supplying $5000 of dental supplies. The septocaine worked well. Besides the safaris we enjoyed, immersing ourselves in the Maasai culture as hands-on caregivers was extremely gratifying. The smiles that followed were heartwarming. Reviewing oral hygiene instructions (translated into Swahili by my daughter's UCLA professor) with patients and playing a scrimmage soccer game at a local school rounded out our experience.

There's nothing more rewarding than giving back and helping others. When you get a chance, just DO IT! You'll never regret it!

PS. The walls of the mud huts are really made from cow dung!!

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